Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Record Book No. 24
Notebook, N-17-07-31

This notebook was used by Edison, Archie D. Hoffman, and possibly other experimenters during July-August 1917 for notes on efforts to improve the surface quality of Edison disc records. The entries pertain primarily to a sequence of experiments numbered from 1750E through 1781E. Most involve experimental lots of record blanks constructed by different methods or prepared with different ingredients. The notes often take the form of instructions to Hoffman, Charles Dally, Frederick P. Ott, or other unspecified employees and include evaluations of the records produced. The entries toward the end of the book summarize the results obtained by varying the amounts of pressure, indicating an increase in durability in the records produced at the end of July. Inserted into the book are several loose notes, including some by Edison. The front cover is labeled "24." The pages are unnumbered. Approximately 50 pages have been used.

Alcohol 52 ½ C

1917

Dumoulins shorter drying in Vac chamber show

Drops 11 in number over 2 months period 87 n/a OK

he will change to 2 hours drying July 30th/19

1750 E

Dumoulins exports lately all break on drop test 20 –

This is 6 Records from Reg Run of factory

	Drop test –
1	20
2	20
3	3
4	20
5	20
6	20 –

7/31/17

1751.E

1751.

12 blanks req powder under only 30% ok prints —

X. [illegible]

felt ½ 7" dia - same

thickness as the thin rubber X.

to make blanks down in Center

Mode

ordered

1752

Reg wood pulp ground + screen to same size as we now grind regular mix –

Capacity of Mill + screens to be ascertained + quality of fibre investigated microscope

Not practical – only get 224 lbs hour, had slap clean Mill screen

63% cement thru 180 Reg 90%
40% " 350 " 63

Whereas reg gave far higher

abandoned for 1757 F

CW

7/31/17

1753-E

OK OK x

OK OK x

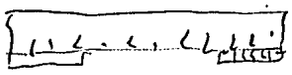
16%

only printed 9 blanks

2 blks Misc before printing
chipped Edge out Edge

1753-E

Load 12 blanks high in Center



Reg pad with Holes
7" apiece

Made ordered

1754E

Daily to dissolve Rosin in warm

Petroleum Benzine
" Naphtha
Solvent Naphtha.
Kerosene -
& Report -

1755 E

Daily to use of Solvent Naphtha will dissolve hard Coal Tar pitch, Asphalt Ozokerite, ~~&c~~ etc. if so to mix Woodpulp Chalk etc Reg proportions with 15% of pitch, using minimum Solvent Naphtha -

8/6/17

1756-E

OK	OK
OK	OK
OK	OK
OK	OK
OK	OK
OK	OK
OK	OK
OK	OK
OK	OK
OK	OK
OK	OK
OK	OK
OK	OK
OK	OK
100	100

(100%)

I am told the powder ground + screened very bad. find out from Haffman all about it.

Drop test		Caliper Points
1.	1	.235.1
2.	1	.231.1
3.	1	.225.1
4.	3	.228.1
5.	2	.233.
6.	1	.230.1
	9 times	

These appear to have a better surface than Rag
will try on Nickel mounts.

Powder dried slow, very damp when taken out of drier. Powder clogged screens of grinders had to stop every 10 + 15 minutes to clean them.

Screens on Norway separators clogged very bad, would have to clean them quite often. Small holes all thru powder after it is packed.

1756- NG

Cuts edge of all to Edging tool. Hard black pieces - chips

Haffman Make one dryer batch of regular using China Clay instead of Chalk - Run the whole of it thru But keep account of 96. up stairs what per cent was OK - also per cent good blanks

1757

Hoffman

Make dryer full of mix with only 1/2 the amount of varnish usually used

Dry & grind + screen —

Then take this powder put in mixer & add the other 1/2 of the Varnish mix well & ~~[illegible]~~ dry again —

Use this powder ~~[illegible]~~ with rescreening —

Let whole batch go thru factory but give 96 of the blanks the number print & keep track of OK blanks & prints

[illegible]

1758

Grind Rosin + Reg wood chalk in Chilian Mill - also Morlin see how it presses in 2" die with Reg pressure

Fred Ott -

Want a pressure of 2400 lbs on the 2" die -

1759 E

Fred Ott, + Dalley

Mix. 6 oz wood fibre
4 oz Chalk

with a Varnish made of

1½ oz Rosin – in 60 cc
of Solvent Naphtha, –

Do it in Challian Mill
Then dry at 212 in
Vaccum Dryers

+ let me see powder ~~before~~
after mixing + after Drying
JEW

Add Varnish & 1/2 the powder (flour) mix then add in other 1/2 of varnish then mixes then slowly adds chalk till all uniform

Add some Violet Cacao Varnish —

Day Work 7/30/17 1760-E		Night Work 7/30/17	Day Work 7/31/17	Day Work 7/31/17
OK OK	x	OK OK x	OK OK x	OK OK
OK OK	x	OK OK x	OK OK x	
	OK OK x	OK OK x		OK OK
		OK OK x		
OK OK	x	OK OK x		
OK OK	x	OK OK x		
OK OK	x	OK OK x		
OK OK	x	OK OK x		
OK OK	x	OK OK x		
OK OK	x	OK OK x	OK OK x	
			OK OK x	
		OK OK x	OK OK x	
		OK OK x	OK OK x	
		OK OK x	OK OK x	OK OK
		OK OK x	OK OK x	
			OK OK x	
33.3%		91%	58%	25%

1760 E

Print 24 Reg records but instead of 850 pressure use only 800.

Print + send to Edna

Day Work. 7/30/17 1761-E		Night Work. 7/30/17	Day Work 7/31/17	Day Work 7/31/17
OK OK	OK OK	OK OK	OK OK	OK OK
OK OK	OK OK	OK OK		OK OK
OK OK	OK OK	OK OK	OK OK	
OK OK		OK OK	OK OK	OK OK
OK OK		OK OK	OK OK	OK OK
OK OK				
		OK OK	OK OK	OK OK
		OK OK	OK OK	
	OK OK			
OK OK			OK OK	
OK OK		OK OK	OK OK	
	Cable (1) Blk.	OK OK		OK OK
	OK OK	OK OK		
	OK OK	OK OK	OK OK	OK OK
OK OK				OK OK
		83%	75%	66%
47.5%				

1761 E

Print 24 ~~[illegible]~~ Reg records but instead of using 850 lbs pressure use 750 lbs

Send to Edison

Day Work 7/30/17 1762-E		Night Work 7/30/17	Day Work 7/31/17	Day Work 7/31/17
Tech 1 3lb	OK OK	OK OK	OK OK	
OK OK	OK OK	OK OK	OK OK	OK OK
	OK OK	OK OK		OK OK
	OK OK	OK OK		OK OK
OK OK	OK OK	OK OK	OK OK	OK OK
OK OK		OK OK		OK OK
OK OK		OK OK		OK OK
		OK OK		
		OK OK		OK OK
		OK OK		OK OK
	OK OK	OK OK		
OK OK	OK OK	OK OK	OK OK	OK OK
OK OK	OK OK	OK OK	OK OK	OK OK
OK OK	OK OK			
100%	41%	75%		
47 5/8%				

1762 E

Print 24 regular records but instead of using 850 lbs use only 700 lbs

Send to Elum

See next Page.

CSIJ

Night Work 200 lbs 7/31	Day Work 8/1/17	
OK OK x	OK OK x	
	OK OK x	
OK OK x	OK OK x	
OK OK x	OK OK x	
OK OK x	OK OK x	
OK OK x	OK OK x	
OK OK x	OK OK x	
OK OK x	OK OK x	
OK OK x	OK OK x	
OK OK x	OK OK x	
OK OK x	OK OK x	
OK OK x	OK OK x	
OK OK x		
83%	91%	

8/8/17

1763-E

OK OK	x	OK OK Low Spot	Drop test	Caliper Point
OK OK	x	OK OK x	1. ___ /	.233
OK OK	x	OK OK x	2. ___ /	.228.1
OK OK	x		3. ___ /	.255.1
OK OK	x	Low Spot	4. ___ /	.237
		Low Spot	5. ___ /	.244.1
Low Spot			6. ___ /	.239
OK OK	x	OK OK x	6	
OK OK	x	OK OK Low Spot		
OK OK	x	OK OK x		
OK OK	x	OK OK Low Spot		
OK OK	x	Low Spot		
OK OK	x	OK OK x		
OK OK	x	Low Spot		
OK OK	x			
91%		66%		
		41%		

1763 E

Dup of 1756 E

Except use Kiselghur

[55]

Day Work 7/30/17	Night Work 7/30/17	Day Work 7/31/17	Day Work 7/31/17	Night Work 7/31/17
1764				
		OK OK x		OK OK x
OK OK x	OK OK x	OK OK x	OK OK x	OK OK x
	OK OK Lower	OK OK x	OK OK x	OK OK x
	OK OK Lower	OK OK x	OK OK x	OK OK x
OK OK x		OK OK x	OK OK x	OK OK x
	OK OK x	OK OK x	OK OK x	OK OK x
	OK OK x	OK OK x	OK OK x	
OK OK x	OK OK x	OK OK x		OK
	OK OK x	OK OK x	OK OK x	OK OK x
	OK OK x		OK OK y	
OK OK x	OK OK x	OK OK x	OK OK x	
OK OK x	OK OK x		OK OK x	
OK OK Lower			OK OK x	OK OK x
OK OK x	83%	73	83%	66
58%				

1764 E

Print 12 records but only use 650 pounds pressure.

Send to Edison

Day Work 8/1/17
OK OK x
OK OK x
OK OK x
OK OK x
OK OK x
OK OK x
OK OK x
OK OK x
OK OK x
75%

Day Work. 1765-E	Night Work	Night Work 7/30/1	Day Work 7/31/17	Day Work 7/31/17
OK OK x	OK OK x	OK OK x	OK OK x	OK OK x
OK OK x	OK OK x	OK OK x	OK OK x	OK OK x
	OK OK x	OK OK x	OK OK x	OK OK x
		OK OK x	OK OK x	OK OK x
OK OK x	OK OK x	OK OK x	OK OK x	OK OK x
		OK OK x	OK OK x	OK OK x
	OK OK x	OK OK x	OK OK x	OK OK x
OK OK x	OK OK x	OK OK x	OK OK x	OK OK x
OK OK x	OK OK x	OK OK x	OK OK x	OK OK x
	OK OK x	OK OK x	OK OK x	OK OK x
	OK OK x	OK OK x		OK OK x
OK OK x	OK OK x	OK OK x		OK OK x
	OK OK x			
58%	100%	100%	83%	100%

1765 E

Print 12 records but only use 600 lbs pressures

Send to Edison

7/31/17 Night Work	8/1/17 Day Work	8/2/17 Day Work	8/2/17
OK OK x	OK OK x	OK OK x	
OK OK x	OK OK x	OK OK x	
OK OK x	OK OK x		OK OK x
	OK OK x	OK OK x	OK OK x
OK OK x	OK OK x	OK OK x	OK OK x
	OK OK x		
OK OK x	OK OK x	OK OK x	
OK OK x	OK OK x	OK OK x	OK OK x
OK OK x	OK OK x	OK OK x	
OK OK x	OK OK x	OK OK x	
OK OK x	OK OK x	OK OK x	
OK OK x	OK OK x		OK OK
OK OK x	OK OK x		
100%	100%	75%	41%

Day Work 7/30/17	Night Work 7/30/17	Day Work 7/31/17	Day Work 7/31/17
1766-E			1766-E
			OK OK x
		OK OK x	OK OK x
	OK OK x		
	OK OK x	OK OK x	
OK OK x	OK OK x		
	OK OK x		OK OK x
	OK OK x		
		OK OK x	
			OK OK x
OK OK x	OK OK x		OK OK x
	OK OK x	OK OK x	
OK OK x		OK OK x	OK OK
25%	58%	41%	50%

Print 12 records on regular printing schedule 850 lbs pressure.

7/31/17

1777-E

OK	x	Drop test
OK	x	1 — 20
OK	x	2 — 20
OK	x	3. — 20
OK	x	4. — 20
OK	x	5 — 20
OK	x	6. — 20
		120 times
OK	x	1/4" mesh screen on shaking machine
OK	x	Powder piles up in center, had to brush it around edges.
OK	x	
		Tested 3 records
		1 very cracking
		2 " "
OK	x	1 Terrible cracks.
OK		2. " "
		1 Very bad. Bad surface.
		2. " " " "
91.5		Can't see injures to month. Reg. powder must have segregated — + coarse on Hand fuses.

1777 E

Hoffman -

Use the shaking screen rig it up and load 12 moulds by pulling in weighed amount of powder from a scoop all at once while screen is shaking till all through, press with Rueger regular note time it takes to load

1778 F

OK	x		
OK	x	OK	x
OK	x	OK	x
OK		OK	x
OK	x		
OK			
OK	x		
OK	x		
		OK	x
OK	x		
		OK	x
OK	x		
OK	x	OK	x

Drop test — Drop Test
1. — 20 — .326.1
2. — [illegible] — .320
3. — [illegible] — .337.1
4. — [illegible] — .220.1
5. — [illegible] — .215.1
6. — [illegible] — .204.1
75 Ideal

75% Good
62.5 Perfect

1778 F

Print 24 with square edge blanks at 650 pounds pressure,

Send to Edison Note 5/2/17.

1778-E Duplicate Print 24 no 600 lbs instead of 650

OK	x	OK	x
OK	x	FERNS	
OK	x	OK	x
		OK	x
		OK	x
OK	x	OK Sow - 3	
OK	x	OK	x
OK	x	OK	x
OK	x	OK	x
OK	x	OK	✓
OK	x	OK	x
OK	x	OK	

91.6%

	averages
850	41 – 45
800	60 – 42
750	63 – 64
700	59 67
650	74 78
600	85 92

Tested Vialin nickel seconds 850 – 600
550 500

850 is the best. 500 is next best 600 next & 550 worst. There is only a small difference between all except 550 which is noticeably lower but all are good — Evidently Varnishing Technique can be greatly improved —

If we have to go to 500 it is OK & only results well by a small % of low opacity

Hence on fine powder blank of July 30 the 1917 we have averaged as far as performance is concerned from 850 to 500 lbs pressure

Pressure Tests.

850	800	750	700	650	600
25	33	47	47	58	58
58	91	83	47	83	100
41	58	75	100	83	100
50	58	47	41	83	83
	25	66	75	83	100
			83	66	100
accumulator set 700					
700	650	600	550	500	
			95.8	95.8	

Edging

100%	90.9	—	92.2	100	100
100	100	100	83.3	91.6	100
82	91	82	82	82	91

Reg & special arbors

Edging on 700 ~~to~~ 650 – 600
550 & 500 lbs pressure
all 100%.
no Re Edging

Aug 1st 1917

Put Accumulator pressure at 600 lbs - at 10 45 am

Night Work 7/31/17		Day Work 8/1/17.	Day Work 8/2/17.	Day Work 8/2/17
OK OK	OK OK		OK OK	OK OK
OK OK	OK OK	OK OK	OK OK	OK OK
OK OK	OK OK	OK OK	OK OK	OK OK Sour-2
OK OK	OK OK	OK OK Sour Spot	OK OK	OK OK
OK OK		OK OK	OK OK	OK OK
OK OK	OK OK	OK OK Sour Spot	OK OK	
OK OK	OK OK	OK OK	OK OK	Bad Cur 9-2
OK OK	OK OK		OK OK	OK OK Sour Spot
OK OK	OK OK	OK OK	OK OK	OK OK
OK OK	OK OK		OK OK	OK OK
OK OK	OK OK	OK OK Sour Spot	OK OK	OK OK
OK OK	OK OK	OK OK	OK OK	OK OK
OK OK		OK OK Sour Spot		OK OK
OK OK	OK OK			
Bad Cur Spot				
		83% Corr.	91%	91%
95.8%		50% Perfect		75% Perfect
91.6% Perfect				

1779 E

Print req 24 Reg blanks but use only 550 lbs pressure & send to Edison

7/31/17		Day Work. 8/1/17.	Day Work 8/2/17	Day Wrk 8/2/17
OK OK x	OK OK x	OK OK x	Low Shot	OK OK x
OK OK x	OK OK x	OK OK x	Low Shot	OK OK x
OK OK x	OK OK x	OK OK x	OK OK Low Shot	
OK OK x	OK OK x		OK OK x	OK OK x
			OK OK x	OK OK x
OK OK x	OK OK x		OK OK x	OK OK x
OK OK x	OK OK x	OK OK x	OK OK x	OK OK x
OK OK x	OK OK x	OK OK x	OK OK x	OK OK x
OK OK x	OK OK x	OK OK Low Shot	OK OK Low Shot	OK OK x
OK OK x	OK OK x	OK OK x	OK OK x	OK OK x
OK OK x	OK OK x	OK OK x	OK OK x	OK OK x
FEEDS	OK OK x	OK OK x	OK OK x	OK OK x
OK OK x	OK OK x	OK OK Low Shot		
95%		83%	83%	91%
		66% Perf.	66% Perfect	

1780E

Print 24 records regular blanks but with only 500 lbs pressure.

8/2/17

1781-E

OK OK	x	OK OK	x
OK OK	x	OK OK	x
OK OK	x	OK OK	x
		OK OK	x
OK OK	x	OK OK	x
OK OK	x	OK OK	x
OK OK	x	OK OK	x
OK OK	x	OK OK	x
OK OK	x	OK OK	x
OK OK	x	OK OK	x
OK OK	x	OK OK	x
OK OK	x	OK OK	x
OK OK	x	OK OK	x
91%		100%	

1781 E

Hoffman –

Make enough blanks for 24 Records 1261 schedule – steam on 3 minutes Contact then 3 minutes steam on at 600th 600 lbs, then Cool –

Print Reg 600 lbs schedule & send to Edison

Duplicate this twice in day & twice at night,

Prime Cubian

Soft Mexcain
Gas house Tar,
Gilsonite

with Solvent Nap. in place of
alcohol — not so strong as
Rosin —

Wood Tar pitch is as
strong as Rosin —

Up to 26th of July records had poor drop test 50 to 60 & less, on 26th they run up to over 100 & 27th then went to 100% (RE) 120 & continued 120 up to date Aug 2nd

Hoffman says 3 Things took place at 26th & 27 or close thereto —

1/2 Norway & 1/2 Carragoo powder started & has continued to date —

previously from 14th 1/2 Dupont & 1/2 Norway used —

2nd Change Changed room from Naval Naval Stores to Columbia Stores —

3rd Change Powder kept much longer before use up to 31st July

[ITEM(S) FOUND IN BOOK]

Dunwoodie –

all items are good
records + nothing
that needs disposition
+ no cover

Total 7 – 100%
Looks good

[ITEM(S) FOUND IN BOOK]

1781 blank schedule 11 Runs 131 Prints
89%

Reg 600 old schedule 10 Runs 120 Prints
59.8

Reg 600 LG 1781 48 prints
70.5

Sqr Edges 600 old sch
76.5

Sharp Edges - 96 prints
92.5

Sharp Edges 1781 - 48 prints
97.5+

less sharp 1781 24 prints
87%

[ITEM(S) FOUND IN BOOK]

Hawaiian 519
No signs wear &
OK no wear

1.87 pound
Medication OK no wear
OK for surface cracks

225
America Here's my boy
No Cracks no wear
OK

220
Everybody loves A
3 Cracks near
may be Chink — OK no wear

[ITEM(S) FOUND IN BOOK]

Carolina - 100-
No leg cracks - OK
No wear -

Ave Maria - 160
no large cracks OK
no wear -

American Aces
445 OK

[ITEM(S) FOUND IN BOOK]

1 – Sandy cracky – ~~Pattern~~ Kilkiam
2 " " |

1 Terrible Crackers Ann Cam
2 " "

1 Very bad bad Quinfor cracker
2 " " Ekin

Cant see anyone to model, Reg porcelain must have aggregated – + Coarse on blank faces –

[ITEM(S) FOUND IN BOOK]

103	113	120
80	102	120
57	100	120
70	94	120
53	68	120
55	64	120
60	22	120
56	70	120
48	76	120
56	120	120
97	51	120
23	92	99
65	45	87
56	81 — 26th	120
54	110	112
39	114	116
74	104	
116	79 — 27th	
85	120	
68	120	

26th to 30th Rangoon bad 11 to 40 Morning sick pneumonia [illegible]

24th 1/2 Rangoon 1/2 Gauniques → Ever since →

25th Chgd Rosin from Great Naval Storm to Columbia

[ITEM(S) FOUND IN BOOK]

600 lbs Pressure

OK OK	X
OK OK	X
OK OK	X
OK OK	X
OK OK	X
OK OK	X
OK OK	X
OK OK	X
OK OK	X
OK OK	X
OK OK	X

[ITEM(S) FOUND IN BOOK]

850 lbs pressure 12 lbs. 58% Ok.
800 " " " " 91% Ok
750 " " " " 83% Ok
700 " " " " 100% Ok
650 " " " " 83% Ok
600 " " " " 100% Ok

850	25	58
800	33	91
750	47	83
700	47	100
650	58	83
600	58	100
600	100	

watched

[ITEM(S) FOUND IN BOOK]

7/10/17	— — —	12 hours
" 11 "	— — —	40 "
" 12 "	— — —	20 ~~min~~
" 13 "	— — —	1 hour
" 16 "	— — —	24 "
" 17 "	— — —	12 "
" 18 "	— — —	12 "
" 19 "	— — —	1 "
" 20 "	— — —	1 "
" 21 "	— — —	1 "
" 23 "	— — —	24 "
" 24 "	— — —	16 "
" 25 "	— — —	6 "
" 26 "	— — —	11 "
" 27 "	— — —	14 "
" 28 "	— — —	16 "
" 29 "	— — —	40 "
" 30 "	— — —	40 "
" 31 "	— — —	20 "